UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CHEMISTRY **0620/53**

Paper 5 Practical Test **October/November 2013**

CONFIDENTIAL INSTRUCTIONS

Great care should be taken to ensure that any confidential information given does not reach the candidates either directly or indirectly.

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READ THESE INSTRUCTIONS FIRST

The teacher responsible for preparing the examination is **not** allowed to consult the question paper before the examination. Teachers should, as part of the preparation of the examination requirements, carry out any tests indicated on page 2 in order to satisfy themselves that the supplied materials are satisfactory.

The standard Report Form to be included with the scripts is given on pages 7 and 8. Please detach and enclose it with the scripts. If scripts are despatched in more than one envelope, it is essential that a copy of the Supervisor's Results and of the Report Form are sent inside **each** envelope.

More material may be issued if required, without penalty, but this should not be necessary. Safety spectacles may be provided if considered necessary.

Supervisors are advised to remind candidates that all substances in the examination should be treated with caution. Please also see under 'General Apparatus' on the use of pipette fillers and safety goggles.

In accordance with COSHH (Control of Substances Hazardous to Health) Regulations, operative in the UK, a hazard appraisal of the examination has been carried out.

Attention is drawn, in particular, to certain materials used in the examination. The following codes are used where relevant.

C = corrosive substance

F = highly flammable substance

H = harmful or irritating substance

O = oxidising substance

N = harmful to the environment

T = toxic substance

Hazard data sheets should be available from your suppliers.

If you have any queries regarding these Instructions, please contact CIE
by e-mail: info@cie.org.uk,
by phone: +44 1223 553554,
by fax: +44 1223 553558,
stating the Centre number, the nature of the query and the syllabus number quoted above.

bestexamhelp.com

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UNIVERSITY of CAMBRIDGE International Examinations

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For Question 1

Each candidate will require

(a) one 25 cm^3 or 50 cm^3 measuring cylinder

(b) one burette, 50 cm^3

(c) one 250 cm^3 conical flask

(d) 150 cm^3 of aqueous potassium manganate(VII), $KMnO_4$, of concentration 3.2 g / dm^3 labelled **solution C**

[H] (e) 50 cm^3 of aqueous iron(II) ammonium sulfate-6-water, $(NH_4)_2Fe(SO_4)_2.6H_2O$,of concentration 25 g / dm^3 made by dissolving 25 g of the salt in 100 cm^3 of sulfuric acid of concentration 1 mol / dm^3, and diluting to 1000 cm^3, labelled **solution D**

[H] (f) 50 cm^3 of aqueous iron(II) ammonium sulfate-6-water of concentration 50 g / dm^3 made by dissolving 50 g of the salt in 100 cm^3 of sulfuric acid of concentration 1 mol / dm^3, and diluting to 1000 cm^3, labelled **solution E**

(g) access to water and distilled water

(h) one 10 cm^3 measuring cylinder

(i) a white tile

(j) two test-tubes

(k) aqueous ammonia of concentration 1.0 mol / dm^3

(l) one funnel for filling burette

(m) access to a clock or stopwatch

25 cm^3 of solution **D** should require approximately 16 cm^3 of solution **C** for the end-point.

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For Question 2

Each candidate will require

[T] [N] **(a)** a stoppered test-tube containing about 5 cm^3 of aqueous potassium chromate(VI), K_2CrO_4, of concentration 0.1 mol / dm^3, labelled **liquid F**

[H] **(b)** a stoppered test-tube containing about 2 cm^3 of 20 volume hydrogen peroxide solution, labelled **hydrogen peroxide solution**

(c) distilled water

(d) splints

(e) rack of test-tubes

(f) iron filings

[H] **(g)** aqueous sulfuric acid of concentration 1 mol / dm^3

[C] **(h)** aqueous sodium hydroxide of concentration 1 mol / dm^3

(i) aqueous barium nitrate of sufficient concentration to give a positive sulfate test

[N] [H] **(j)** aqueous silver nitrate of sufficient concentration to give a positive halide test

[C] **(k)** aqueous nitric acid of concentration 1 mol / dm^3

(l) one 10 cm^3 measuring cylinder

(m) a Bunsen burner and matches

(n) teat pipettes

(o) spatula

(p) pH indicator papers and chart

(q) one cork or stopper to fit test-tubes

Labels do not need to include concentrations.

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THE SUPERVISOR'S REPORT IS ON PAGES 7 AND 8

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This form must be completed and returned in the envelope with the scripts.

REPORT ON PRACTICAL CHEMISTRY

NOVEMBER 2013

1 **(a)** Supervisor's Results

It is recommended that the Supervisor should be a chemistry teacher.

The Supervisor is asked to carry out the experiments in Questions 1 and 2 and to record the results on a spare copy of the question paper clearly labelled 'Supervisor's Results'. Failure to enclose these results and this report form may lead to candidates being unavoidably penalised.

(b) The candidate numbers of candidates in each session were:

First session	*Second session*

2 The Supervisor is invited to report details of any difficulties experienced by candidates giving names and candidate numbers. The report should include reference to:

(a) any general difficulties encountered in making preparations for the examination;

(b) difficulties due to faulty apparatus or materials;

(c) accidents to apparatus or materials.

Other cases of individual hardship, e.g. illness, temporary disability, should be reported direct to UCLES on the normal *Application for Special Consideration* form.

NAME OF CENTRE .....

CENTRE NUMBER .....

SIGNED .....
Supervisor

DECLARATION (to be signed by the Principal)

The preparation of this practical examination has been carried out so as to maintain fully the security of the examination.

NAME .....
(in block capitals)

SIGNED ..... (Principal)

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